

Sheet 1

Q1:

What is the first and last value of y ? what is the last value assigned to ans ?

```
X=5*3-42/2*2;
```

```
X=5;
```

```
Y=x+2;
```

```
5*3+2-9;
```

```
Y=x*10;
```

```
Z=ans+53;
```

```
Y=z+x*2;
```

Q2:

Count the number of character in the following string:

```
S='hello'
```

```
S= ['h', 'e', 'l', 'l', 'o']
```

Q3:

Let $x=[2, 3, 5; 7, -6, -8]$

Create:

- **neg** vector that contain x 's negative values
- **pos** vector that contains x 's positive values
- **even** vector that contains x 's even values
- **odd** vector that contains x 's odd values

Q4:

Use Matlab commands to:

- solve the equation: $x+356=0$

- differentiate: $x^2 + 32x - 5$

Given: $m = [2, 3, 6]$; $x = [5, 9, 2]$; $y = [0.2, 0.5, 0.9]$; $t = 5$; $n = 3$, calculate the value of D where

$$D = \frac{1}{2n} \sum_{i=1}^n (t + m x_i - y_i) x_i$$

Q5:

Let $x = [1, 2, 4, 6; 7, 8, 3, 0]$, $y = [7, 8, 4; 2, 5, 8]$

Use Matlab commands to calculate the following:

Diag(x)

Diag(y)

Zeros(3)

$x + y$

$x .* y$

$x * y$

flipud(x)

fliplr(y)

$g = [x; y \text{ ones}(2, 1)]$

$c = \{x, 'hi', y; g\}$

$c = \{x, 'hi', y; g, x, y\}$

$x(:, :, 3) = [9, 1, 2, 4, 60; 7, 68, 3, 10]$

$x(:, :, 2) = [1, 20, 4; 9, 18, 23]$

eye (size(x))

eye (length(g))

find(y>5&y<10)

y(find(y>5&y<10))

$x(:, :, :)$

$y([1:3], :)$

Q7:

Write a function called union that takes two vectors and return their union

Q8:

Create an array of structure with 2 students. The structure fields are id and name. The first student's name is 'Mai' and has id=1. The other student name is 'Maha' and has id=3.

Q9: write a function that perform the calculator function